

Economic Development in the Texas Coastal Zone

HC
107
.T4
T37
1973
C.2

S
E
A

G
R
A
N
T

P
R
O
G
R
A
M

A summary report

ECONOMIC DEVELOPMENT
IN THE
TEXAS COASTAL ZONE

Prepared for

OFFICE OF THE GOVERNOR
DIVISION OF PLANNING COORDINATION
COASTAL RESOURCES MANAGEMENT PROGRAM
INTERAGENCY COUNCIL ON NATURAL RESOURCES
AND THE ENVIRONMENT
STATE OF TEXAS

Property of CSC Library

by

SEA GRANT PROGRAM
COLLEGE OF ENGINEERING
TEXAS A&M UNIVERSITY

MARCH 1973

U. S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

HL107.T4 T37 1973 v.2

SEP 30 1991

This report prepared by

SEA GRANT PROGRAM
TEXAS A&M UNIVERSITY
John Miloy, Project Director

Contributions by

Gerald R. Rapp, Industrial Economics Research Division
David M. French, Industrial Economics Research Division
James R. Bradley, Head of Industrial Economics Research Division

Prepared for

THE INTERAGENCY COUNCIL ON NATURAL RESOURCES AND THE ENVIRONMENT

OFFICE OF THE GOVERNOR

Dolph Briscoe, Governor

AIR CONTROL BOARD

Charles Barden, Executive Secretary

DEPARTMENT OF AGRICULTURE

John C. White, Commissioner

GENERAL LAND OFFICE

Bob Armstrong, Commissioner

HIGHWAY DEPARTMENT

J.C. Dingwall, State Highway Engineer

INDUSTRIAL COMMISSION

James H. Harwell, Executive Director

PARKS & WILDLIFE DEPARTMENT

Clayton T. Garrison, Executive Director

BUREAU OF ECONOMIC GEOLOGY

William L. Fisher, Director

RAILROAD COMMISSION

George F. Singletary, Administrator

SOIL AND WATER CONSERVATION BOARD

Harvey Davis, Executive Director

WATER DEVELOPMENT BOARD

Harry P. Burleigh, Executive Director

WATER RIGHTS COMMISSION

Judge Otha F. Dent, Chairman

WATER QUALITY BOARD

Hugh C. Yantis Jr., Executive Director

TEXAS FOREST SERVICE

Paul R. Kramer, Director

EX-OFFICIO MEMBERS

THE UNIVERSITY OF TEXAS AT AUSTIN

Stephen Spurr, President

TEXAS A&M UNIVERSITY

*John C. Calhoun Jr., Vice President
for Academic Affairs*

Staff Support Provided by the Division of Planning
Coordination, Ed Grisham, Director.

Joe B. Harris - Coordinator of Natural Resources

*Joe C. Moseley II - Project Director, Coastal Resources
Management Program*

Linda Johnston - Reports Editor

Charles Cooke - Planning Analyst

FOREWORD

Economic changes occurring in the 36 counties comprising the coastal zone of Texas are presented in this summary report, Economic Development in the Texas Coastal Zone.

As one of six studies sponsored by the Coastal Resources Management Program of Texas under the Interagency Council on Natural Resources and the Environment, this study provided baseline data on economic, human and natural resources of the coastal zone and the State of Texas. An analysis of these resources reveals numerous clues to growth patterns and changes occurring in the coastal zone. Identification and recognition of factors important to future developments in the coastal zone are essential if coastal resources are to be preserved, protected and developed for maximum benefits to present and future generations.

Basic data concerned with the economic growth of the coastal zone for the past 30 years have been assembled by the authors with specific documentation of population, industrial, employment and income trends. Current resources have been analyzed according to their renewable and nonrenewable characteristics. Urban and rural changes have been identified and discussed with emphasis on significant economic data. Future assumptions and economic projections have been generated to evaluate potential economic changes in the coastal zone of Texas to the year 2000. Particular emphasis has been placed on population shifts, industry changes and employment levels.

TABLE OF CONTENTS

<u>Section Title</u>	<u>Page</u>
Introduction	1
Coastal Zone Study Area	2
History of Economic Growth	3
Current Resources	3
Urban and Rural Changes	4
Future Assumptions and Economic Projection	4
Conclusion	9

INTRODUCTION

POPULATION TRENDS

The Texas coastal zone experienced a higher rate of growth than the rest of the state from 1940 to 1970. Total population increased from 1,539,221 in 1940 to 3,502,546 in 1970. It is expected that coastal zone population will range from 5 to 6 million persons by the year 2000.

INDUSTRIAL GROWTH TRENDS

Primary or extraction industries have declined in importance relative to the manufacturing and services sector in the study area.

Agriculture in the coastal zone remained at a constant 18 percent of total state market value. This is expected to remain relatively constant as livestock will undergo a relative decrease in value and crop values will increase.

Mining activities increased in economic importance to almost twice that of agriculture in the coastal zone by 1970 and are expected to continue increasing due to more intensive offshore activities.

Secondary industries such as the various manufacturing activities remained constant in economic importance but will slowly increase at the expense of primary industries. Increases in value added by manufacture over the study period were due mainly to the growth of the chemical and petrochemical industries. Future growth, however, will be due largely to food processing activities.

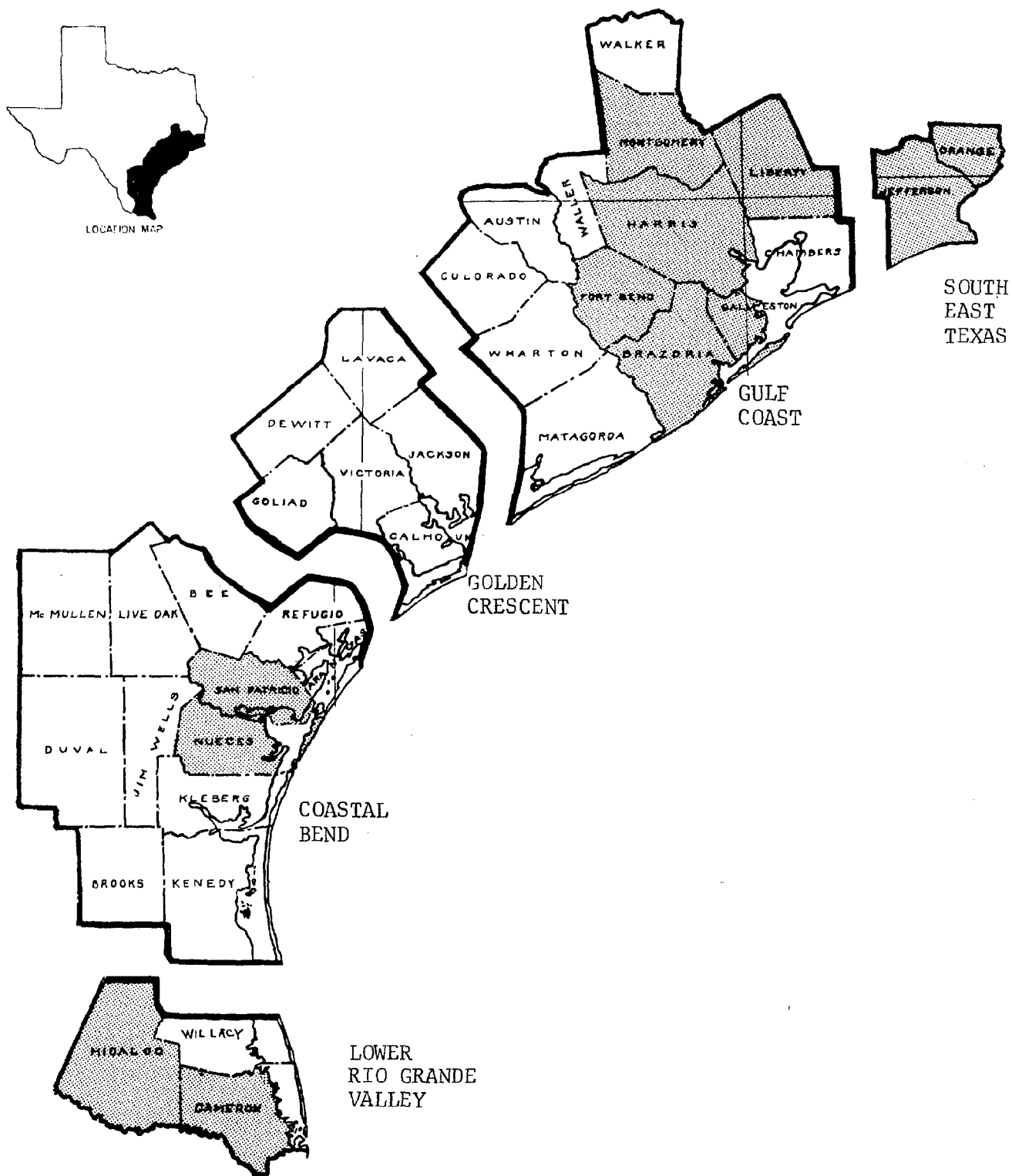
Tertiary industries, or the trade and service sectors, have increased in relative importance in recent years and will continue to do so in the future at the expense of primary and secondary industry activities. Tertiary industries in the coastal zone will climb to 55 percent of total industrial sector activities by the year 2000.

EMPLOYMENT TRENDS

Employment trends essentially follow the same pattern as industrial growth trends with growth in primary industry employment lagging behind the other sectors. The coastal zone is projected to provide over one-third of the 2.2 million new jobs generated in the state by the year 2000.

URBAN AND RURAL CHANGES

The largest growth in population has been in the metropolitan sectors of the region, so also has the per capita income. In 1969, about 36 percent of the land area of the coastal zone contained 87 percent of the population and 91 percent of the total earnings of the labor force in the study area. Growth into as yet undeveloped areas of the coastal zone is not expected until the latter part of the century.



STUDY AREA
Coastal Zone State Planning Regions
and Standard Metropolitan Statistical Areas

HISTORY OF ECONOMIC GROWTH

The coastal zone of Texas has experienced a higher rate of population growth over the study period than the state.

Within the study area the most significant proportion of growth has taken place in the Houston SMSA centered in the Gulf Coast State Planning Region. However, the general shift of population to the metropolitan areas of the coastal zone has continued at a decreasing rate since the decade of the 1950s. During the decade of the 1960s two of the six SMSA's--Houston and Galveston-Texas City--maintained relatively high rates of growth.

In general, the decreasing rate of increase in SMSA populations is a reflection of a larger reduction in population growth rates for the coastal zone of Texas since the 1940s and 1950s. The concentration of population in metropolitan areas of the coastal zone has limited the income earning ability of a growing proportion of the zone's rural inhabitants as well as that of unskilled urban migrants and minority group members. This is a contributing factor to the relatively slower growth of per capita income in the study area as compared with the state.

When plotted as a percentage of total industrial earnings in the coastal zone

primary sector earnings have been the least significant and have experienced a relative decrease over the study period. However, while primary industry earnings have decreased from about 25 percent in 1940 to just over 11 percent in 1970, secondary industry earnings have grown from 28 percent to 42 percent over the same period. Tertiary industry earnings have remained relatively constant showing slight increases from 42 to 47 percent during the study period.

No definite trends in broad industry sector earnings can be established by the quantitative comparisons of coastal zone and state values. Employment figures, however, indicate that growth in the study area has been comparable to that of the state in both the secondary and tertiary industries.

Employment in secondary sector activities, while maintaining importance in overall state activities, shows a reduced contribution in the coastal zone in the latter part of the study period at the expense of a shift toward tertiary industry. Employment in primary industry activities in the study area has risen significantly in proportion to the state.

CURRENT RESOURCES

It is clear that the coastal zone of Texas contains renewable resources in more intense quantities than the rest of the state. The study area represents about one-eighth of the land mass of the state yet yields almost 20 percent of the statewide cash receipts from marketed agricultural products.

While the various agricultural commodities currently outweigh the income from commercial fishing, the growth of this industry has shown great possibilities. The total value of the commercial fishing catch in the Texas Gulf amounted to only 1.68 percent of the combined income from renewable resource activities.

However, this is based solely on a total market value of about \$53 million and does not include the economic impact of this industry on related activities in the coastal zone.

Nonrenewable resource development also seems to be more intense in the coastal zone of Texas where the total mineral values represent one-third of overall state values. Generally obscured by the

overwhelming mineral fuel values is a growing non-fuel mineral industry providing non-metallic raw material inputs to support the construction industry.

The interplay between the desire for preservation and intensification of renewable resources and demands for conservation and development of nonrenewable resources provides the context for rational resource management.

URBAN AND RURAL CHANGES

As growth in the coastal zone population has occurred predominately in the urban and metropolitan sectors of the region, so also has the per capita income. These income increases are a reflection of the 90 percent proportion of the total coastal zone earnings contributed by the workers in metropolitan areas.

Thus, in 1969 only 35.9 percent of the land area of the entire coastal zone accounted for 87 percent of the total population and 91 percent of the total earn-

ings of the coastal zone labor force.

The other 64.1 percent of the land area which is non-metropolitan in nature, may therefore be viewed as a future resource for expansion and/or distribution of the population and for the dispersion of industry to lure this growth.

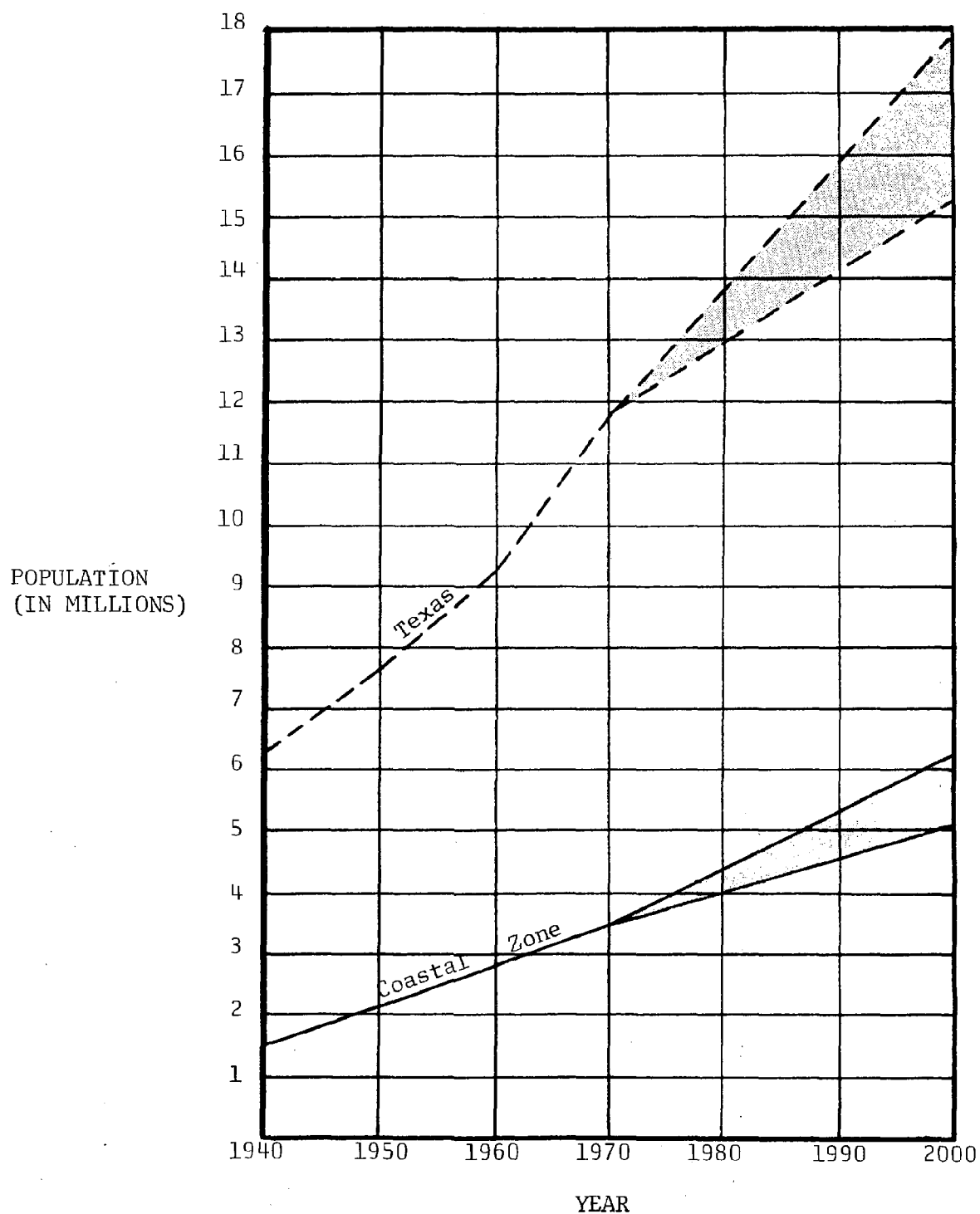
Such growth, however, cannot be expected until the latter part of the century, as there yet remains much developable land within current standard metropolitan statistical areas, particularly on the fringes.

FUTURE ASSUMPTIONS AND ECONOMIC PROJECTION

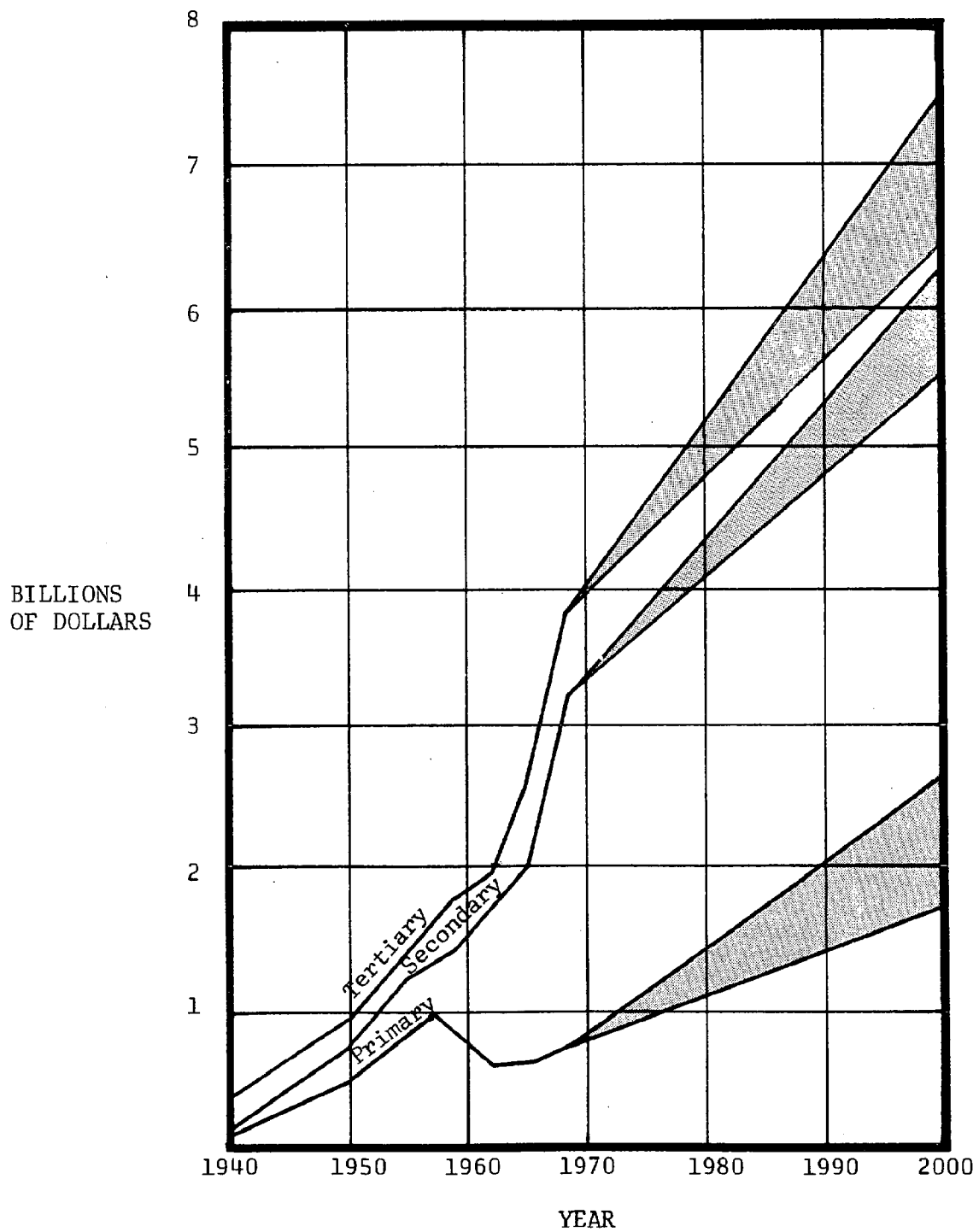
The population of the coastal zone of Texas is expected to increase from 3.5 million to an estimated range of 5.1 to 6 million persons by the year 2000. Lower fertility rates and in-migration should hold growth to the lower limit of this range and the relatively high rate of population growth should decrease to a steady average of from 1.2 percent to 1.5 percent per year. The Houston-Galveston metropolitan area is expected to absorb the great majority of this growth.

Employment in the study area estimated at 1.48 million workers in 1970, will increase to a total of 2.3 million by the year 2000. The primary industry activities will comprise about 4.5 percent of the projected total or about 104,000 workers.

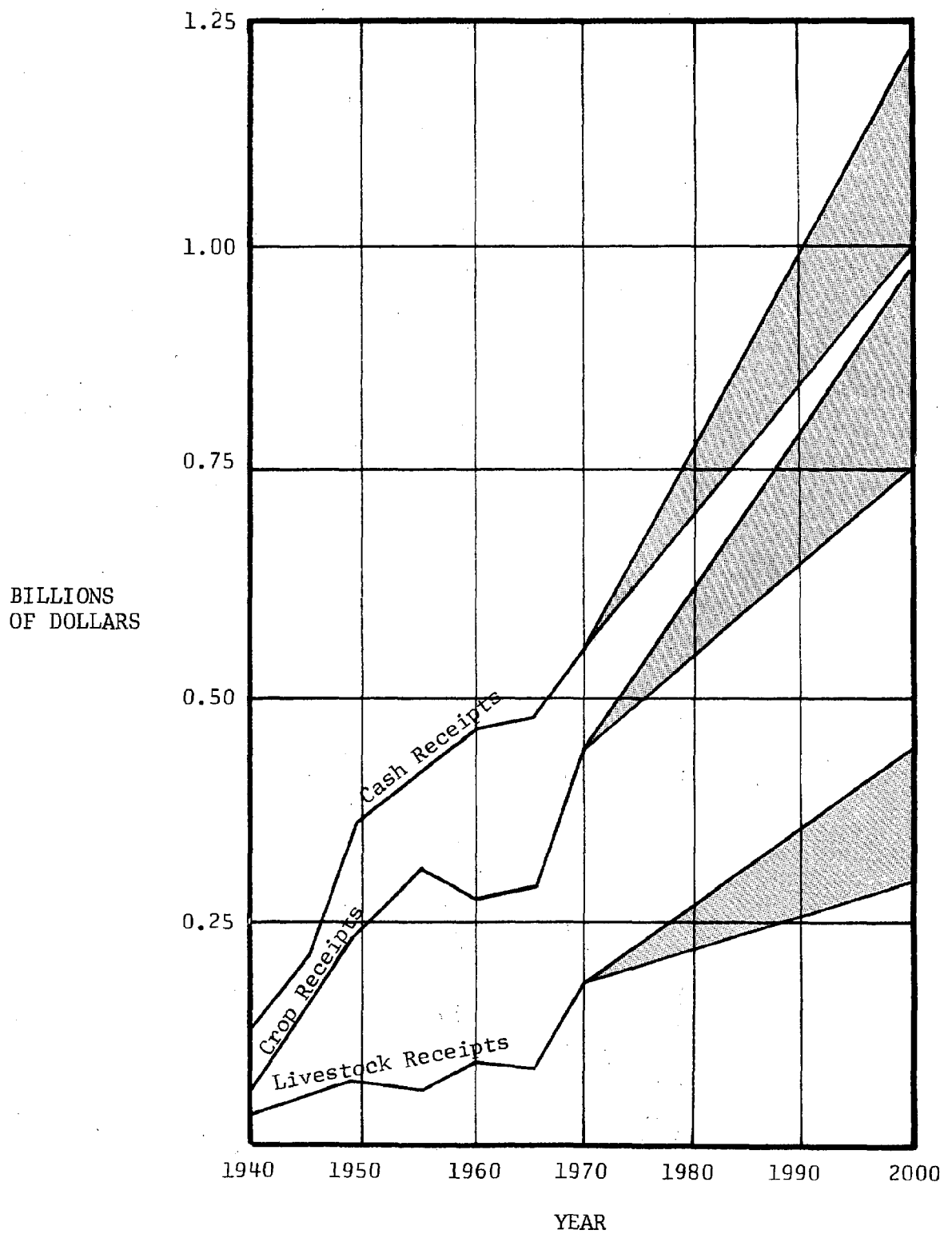
Although this proportion is higher than the primary sector contribution to employment on a statewide basis, new technologies for resource extraction and the general depletion of non-renewable resources allow little hope for expansion of the work force



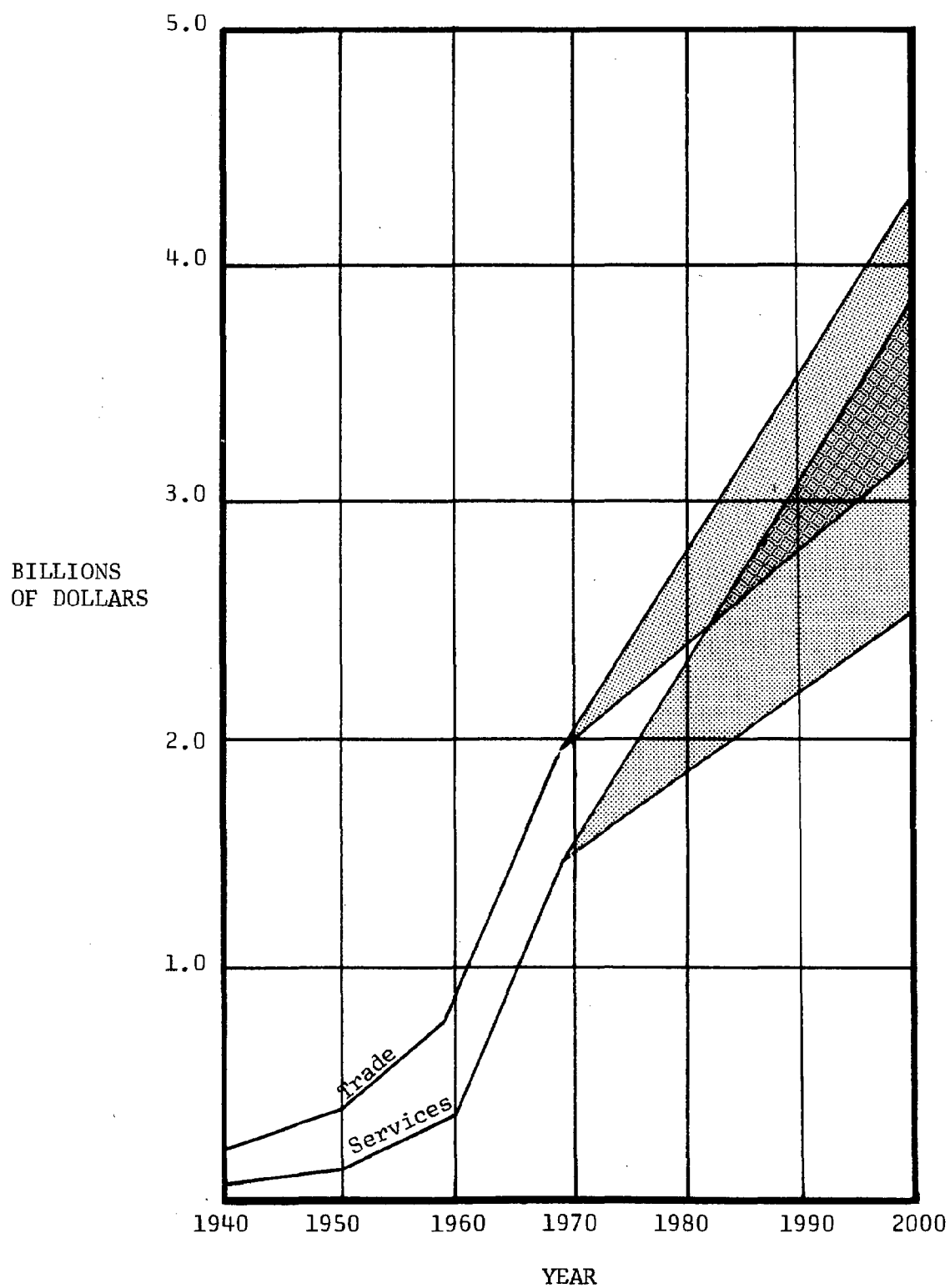
PROJECTED POPULATION RANGES FOR TEXAS AND THE COASTAL ZONE
1940-2000
(ABSOLUTE NUMBERS)



DOLLAR VALUE OF PRIMARY, SECONDARY AND TERTIARY
INDUSTRY SECTOR EARNINGS IN THE COASTAL ZONE
1940-2000



CASH RECEIPTS FOR AGRICULTURAL COMMODITIES
IN THE COASTAL ZONE



PROJECTIONS OF DOLLAR VALUE OF MAJOR TERTIARY
ACTIVITY EARNINGS IN THE COASTAL ZONE

associated with primary industries.

Primary sector earnings in the study area are therefore projected to decrease from 12 percent in 1970 to an estimated 5 percent of the total broad industrial sector earnings by the year 2000. Absolute primary sector earnings, however should increase from one to two billion dollars during the same period.

Automation in secondary industries will lower the relative growth rate of employment in this category however, the absolute number of workers should increase from 361,000 in 1970 to 630,000 by 2000. Furthermore, secondary industry earnings in the coastal zone will increase from \$3 billion to just under \$6 billion over the same period, even though as a percent of

total industrial activity there should be little, if any increase.

By contrast, tertiary industry employment will increase incrementally with population to account for 68.3 percent of 1.5 million of the jobs in the coastal zone by 2000. Moreover, one-half of the total industrial sector earnings should be due to tertiary activities and will represent an estimated \$7 billion.

Since tertiary activities are consumer oriented, the more densely populated northern sections of the coastal zone will account for a greater contribution to tertiary industry growth. Thus the Houston-Galveston and Beaumont-Port Arthur-Orange areas likely will exceed state averages for growth in both employment and per capita income.

CONCLUSION

This report briefly summarizes past trends, present activities and future projections for economic activities in the Texas coastal zone. There are several additional considerations to be noted, to include:

1. Those interested in more comprehensive information on this topic should consult the full "conceptual" report on this same subject.
2. The Texas Input-Output Analysis Project provides an 186-sector model of the state's economy, along with regional sub-models, which can be used to determine impacts of changes in level of activity, resource requirements, etc. Dr. Herb Grubb, Office of Information Services, Office of the Governor, Austin, Texas can be contacted for full details of The Texas I-O Model. Practical application of the I-O Model for a number of coastal-related activities have already been initiated.
3. These include (a) impact of high levels of crude oil importation, (b) hypothetical effect of a prolonged rail strike on the state economy, (c) impacts of increased offshore and OCS oil and gas production, and (d) effects of unitization of existing oil and gas production areas.
3. Numerous techniques are available for projecting future economic activities. However, one of the present constraints is in accurately predicting the spatial distribution of such activities within the region. Continuing research is needed and underway to improve the techniques for accomplishing this. This capability will be highly useful and important in the Texas coastal zone, already recognized as one of the most dynamic growth areas in the nation.

DATE DUE

GAYLORD	No. 2333
---------	----------

PRINTED IN U.S.A.

